IN THE SPECIFICATION

Please replace the paragraph beginning with "21)" on page 16 with the following:

21) The ink jet recording ink as described in the above 20), wherein the total amount of unreacted cationically polymerizable surface active agent, unreacted anionically polymerizable surface active agent and/or hydrophilic monomer having an anionic group, and unreacted hydrophobic monomer before the purification treatment is [[each]] 5 to 40% by weight based on the charged amount thereof.

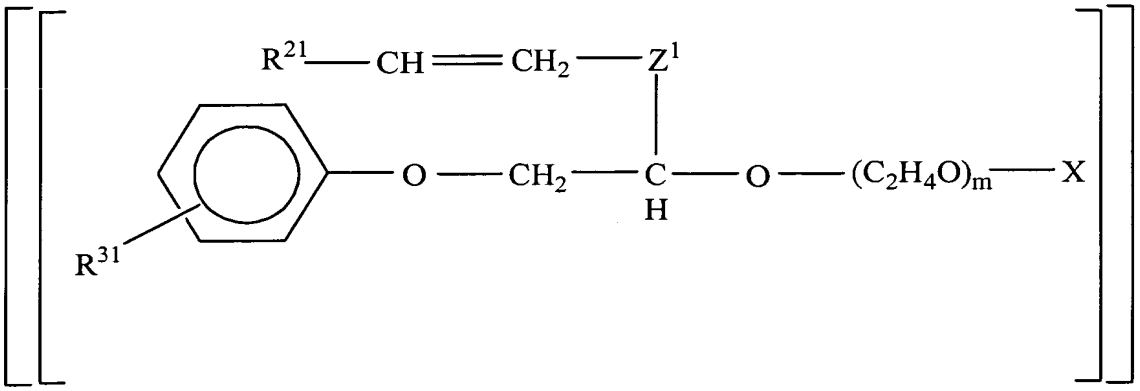
Please replace the first full paragraph on page 18, which starts with "29) The ink jet" with the following:

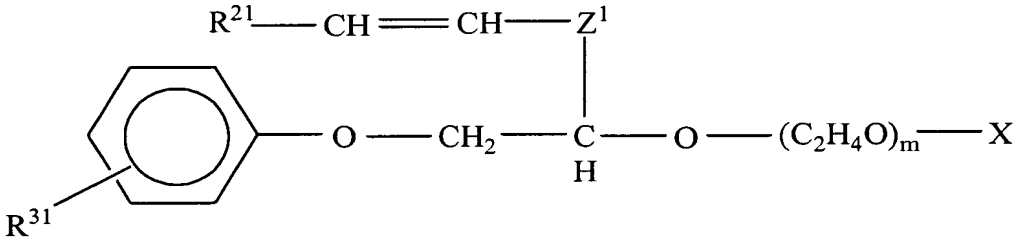
29) The ink jet recording ink as described in any one of the above 26) to 28), wherein the water-soluble organic solvent is one or more compounds selected from the group consisting of an alkyl ether of a polyhydric alcohol and/or a ~~1, 2-alkyldiol~~ 1, 2-alkanediol.

Please replace the second full paragraph on page 49, which starts with "Specific Examples" with the following:

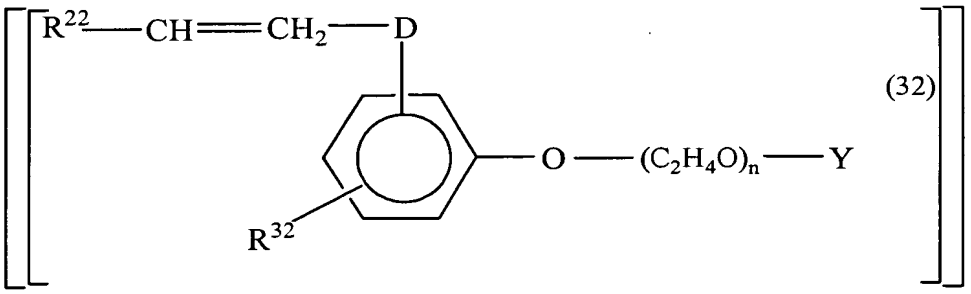
Specific examples of the above cationically polymerizable surface active agent include cationic ~~allyl acid derivatives~~ acrylic acid derivative as described in JP-B-4-65824.

Please replace the formula on page 51 with the following new formula:

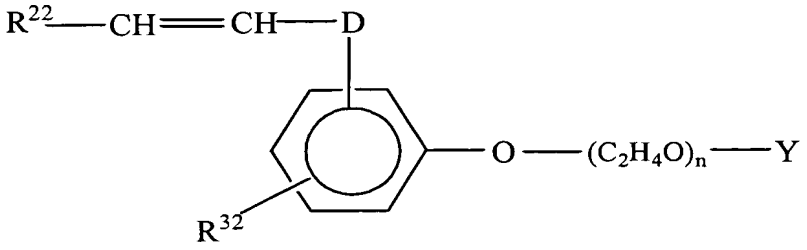




Please replace the formula on page 52 with the following new formula:



(32)



(32)

Please replace the paragraph bridging pages 95 and 96, which starts with "The ink jet" with the following:

The ink jet recording ink according to the invention preferably contains a penetrant for the purpose of accelerating penetration of the aqueous solvent into recording media. Rapid penetration of the aqueous solvent into a recording medium assures formation of images with little blurring. As such a penetrant, an alkyl ether of polyhydric alcohol (also called glycol ethers) or a ~~1,2-alkyldiol~~ 1,2-alkanediol is preferably used. Specific examples of the alkyl ester of polyhydric alcohol include ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol monobutyl ether, ethylene glycol monomethyl ether acetate, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, ethylene glycol mono-n-propyl ether, ethylene glycol mono-isopropyl ether, diethylene glycol mono-isopropyl ether, ethylene glycol mono-n-butyl ether, diethylene glycol mono-n-butyl ether, triethylene glycol mono-n-butyl ether, ethylene glycol mono-t-butyl ether, diethylene glycol mono-t-butyl ether, 1-methyl-1-methoxybutanol, propylene glycol monomethyl ether,

propylene glycol monoethyl ether, propylene glycol mono-t-butyl ether, propylene glycol mono-n-propyl ether, propylene glycol mono-isopropyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, dipropylene glycol mono-n-propyl ether, dipropylene glycol mono-isopropyl ether, propylene glycol mono-n-butyl ether, and dipropylene glycol mono-n-butyl ether. Specific examples of the ~~1,2-alkyldiols~~ 1,2-alkanediol include 1,2-pentanediol and 1,2-hexanediol. In addition, the penetrant may also be suitably selected from straight-chain hydrocarbon diols such as 1,3-propanediol, 1,4-butanediol, 1,5-pentanediol, 1,6-hexanediol, 1,7-heptanediol, and 1,8-octanediol.

Please replace the paragraph bridging pages 96 and 97 which starts with "Particularly in an" with the following:

Particularly in an embodiment of the invention, preferred penetrants are propylene glycol monobutyl ether, dipropylene glycol monobutyl ether, diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, 1,2-pentanediol, and 1,2-hexanediol. The content of the penetrant is preferably 1 to 20% by weight, more preferably 1 to 10% by weight, based on the total weight of the ink jet printing ink. Less than 1% of the content of the penetrant is substantially ineffective on penetrability. More than 20% of the content rather results in disadvantages such as blurring, decrease of print quality, or increased viscosity. Particularly, use of the ~~1,2-alkyldiol~~ 1,2-alkanediol, such as 1,2-pentanediol or 1,2-hexanediol, remarkably improves drying properties and blurring after printing.

Please replace the second full paragraph on page 97, which starts with "Furthermore," with the following:

Furthermore, incorporation of at least one compound selected from the group consisting of a polyhydric alcohol alkyl ether and a ~~1,2-alkyldiol~~ 1,2-alkanediol can enhance penetrability of ink solvent components into a recording medium, and hence, in cooperation with the effects of the microencapsulated pigment, can bring about remarkably improved image quality with greatly reducing blurring even when printing is conducted on plain paper or regenerated paper.

Please replace the paragraph bridging pages 114 and 115, which starts with "In addition," with the following:

In addition, as mentioned above, it is preferred in the invention to have a structure where a molecule derived from the above monomer is crosslinked by a crosslinkable monomer having two or more polymerizable double bonds. Examples of the crosslinkable monomer having two or more polymerizable double bonds include diacrylate compounds such as polyethylene glycol diacrylate, triethylene glycol diacrylate, 1,3-butylene glycol diacrylate, ~~1,6-butylene glycol diacrylate~~ 1,4-butylene glycol diacrylate, 1,6-hexanediol diacrylate, neopentyl glycol diacrylate, 1,9-nonanediol diacrylate, polypropylene glycol diacrylate, 2,2'-bis(4-acryloxypropyloxyphenyl)propane, 2,2'-bis (4-acryloxydiethoxyphenyl) propane, 2,2-bis[4-(acryloxyethoxy-diethoxy)phenyl]propane, and 2,2-bis[4-

(acryloxyethoxy-polyethoxy)phenyl]propane; triacrylate compounds such as trimethylolpropane triacrylate, trimethylolethane triacrylate, and tetramethylolmethane triacrylate; tetraacrylate compounds such as ditrimethylol tetraacrylate, tetramethylolmethane tetraacrylate, and pentaerythritol tetraacrylate; hexaacrylate compounds such as dipentaerythritol hexaacrylate; dimethacrylate compounds such as ethylene glycol dimethacrylate, diethylene glycol dimethacrylate, triethylene glycol dimethacrylate, polyethylene glycol dimethacrylate, 1,3-butylene glycol dimethacrylate, 1,4-butylene glycol dimethacrylate, 1,6-hexanediol dimethacrylate, neopentyl glycol dimethacrylate, dipropylene glycol dimethacrylate, polypropylene glycol dimethacrylate, polybutylene glycol dimethacrylate, and 2,2'-bis(4-methacryloxydiethoxyphenyl)propane; trimethacrylate compounds such as trimethylolpropane trimethacrylate and trimethylolethane trimethacrylate; methylene-bis-acrylamide, and divinylbenzene.

Please replace the second full paragraph on page 117, which starts with "Preferable pH" with the following:

Preferable pH adjusters include specifically ~~potassium metal compounds~~ alkali metal compounds such as sodium hydroxide, potassium hydroxide, lithium hydroxide, sodium carbonate, sodium hydrogen carbonate, potassium carbonate, lithium carbonate, sodium phosphate, potassium phosphate, lithium phosphate, potassium dihydrogen phosphate, dipotassium hydrogen phosphate, sodium oxalate, potassium oxalate, lithium oxalate, sodium borate, sodium tetraborate, potassium hydrogen phthalate, and potassium hydrogen tartrate;

ammonia; and amines such as methylamine, ethylamine, diethylamine, trimethylamine, triethylamine, tris(hydroxymethyl)aminomethane hydrochloride, triethanolamine, diethanolamine, diethylethanolamine, triisopropenolamine, butyldiethanolamine, morpholine, and propanolamine.

Please replace the paragraph bridging pages 118 and 119, which starts with "A particularly preferred" with the following:

A particularly preferred ink jet recording ink according to an embodiment of the invention comprises at least:

(1) the microencapsulated pigment according to the present invention,

(2) at least one compound (penetrant) selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, and a ~~1,2-alkyldiol~~ 1,2-alkanediol having 4 to 10 carbon atoms,

(4) glycerin, and

(5) water.

Please replace the paragraph bridging pages 119 and 120, which starts with "A particularly preferred"

A particularly preferred ink jet recording ink according to another embodiment of the invention comprises at least:

(1) the microencapsulated pigment according to the present invention,

(2) at least one compound (penetrant) selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, and a ~~1,2-alkyldiol~~ 1,2-alkanediol having 4 to 10 carbon atoms,

(3) an acetylene glycol surface active agent and/or an acetylene alcohol surface active agent,

(4) glycerin, and

(5) water.

Please replace the paragraph bridging pages 120 and 121, which starts with "More specifically" with the following:

More specifically, in the case of inks comprising a pigment dispersion prepared by dispersing the pigment using a dispersant such as a surface active agent or a polymeric dispersant and, for improving penetrability, further comprising the above acetylene glycol surface active agent and/or the acetylene alcohol surface active agent and a penetrant such as diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, propylene glycol monobutyl ether, dipropylene glycol monobutyl ether or a ~~1,2-alkyldiol~~ 1,2-alkanediol, the dispersant is easily released from the pigment surface due to the strong shear force imposed at the ejection of the ink through fine nozzles, which tends to result in decrease of dispersion stability and cause instable ejection.

Please replace the first full paragraph on page 123, which starts with "In the particularly" with the following:

In the particularly preferred embodiment of the invention mentioned above, the amount of the ~~1,2-alkyldiol~~ 1,2-alkanediol having 4 to 10 carbon atoms to be added as a penetrant of the component (2) is preferably 15% by weight or less based on the total weight of the ink composition. ~~1,2-Alkyldiols~~ 1,2-Alkanediol having 3 or fewer carbon atoms are not so effective, and ~~1,2-alkyldiol~~ 1,2-alkanediol having 15 or more carbon atoms hardly dissolves in water, both cases being not preferred. Addition of more than 15% by weight tends to result in increase of viscosity. Specifically, 1,2-pentanediol or 1,2-hexanediol is preferably used and these compounds can be used singly or in combination. 1,2-Pentanediol is preferably added in an amount of 3 to 15% by weight. Less than 3% fails to secure satisfactory penetrability. 1,2-Hexanediol is preferably added in an amount of 0.5 to 10% by weight. Less than 0.5% fails to obtain satisfactory penetrability.

Please replace the paragraph on the top of page 129, which starts with "The Zeisel" with the following:

The Zeisel method was used as a method for the determination. Diazomethane was dissolved in an appropriate solvent and the resulting solution was added dropwise to convert all the active hydrogens on the surface of pigment particles to methyl groups. Hydroiodic acid having a specific gravity of 1.7 was added to the thus treated pigment, followed by

heating to convert methyl groups into methyl iodide, which was vaporized. The methyl iodide vapor was trapped in a silver nitrate solution and precipitated as ~~silver methyl iodide~~ silver iodide. The amount of the original methyl group, i.e., active hydrogen was calculated from the weight of the silver iodide and expressed by molar amount per gram of the pigment (mmol/g).

Please replace the paragraph bridging pages 158 and 159, which starts with "On the other hand," with the following:

On the other hand, the resulting microencapsulated pigment "MCP15" was subjected to ultrafiltration by a cross-flow method on an ultrafiltration apparatus. Part of the dispersion after the ultrafiltration was subjected to the quantitative determination in the same manner as described above to determine unreacted amounts from dissolved amounts of dimethylaminoethyl methacrylate methyl chloride, Aqualon ~~KH-5~~ KH-10, and 2-acrylamido-2-methylpropanesulfonic acid in the dispersion. Moreover, part of the dispersion after the ultrafiltration was mixed with n-hexane, the organic solvent phase was collected, and absorbance thereof in the range of 200 to 400 nm was measured on a spectrophotometer. Using calibration curves of benzyl methacrylate and dodecyl methacrylate at a specific wavelength prepared beforehand, unreacted amounts thereof were determined from the dissolved amount of benzyl methacrylate and dodecyl methacrylate in the n-hexane extract. The total concentration of the unreacted dimethylaminoethyl methacrylate methyl chloride, 2-acrylamido-2-methylpropanesulfonic acid, Aqualon KH-10,

benzyl methacrylate, and dodecyl methacrylate was found to be less than 10,000 ppm.

Please replace the paragraph bridging pages 171, 172 and 173, which starts with "In a reaction" with the following:

In a reaction vessel equipped with a stirrer, reflux condenser, a dropping apparatus, and a thermometer were put 900 g of ion-exchanged water and 4 g of sodium lauryl sulfate, the whole was warmed to 70°C under stirring while purging with nitrogen. The inner temperature was maintained at 70°C and 2 g of potassium persulfate was added thereto and dissolved. Then, an emulsion obtained by stirring 20 g of acrylamide, 435 g of styrene, 475 g of n-butyl acrylate, and 30 g of methacrylic acid with 450 g of ion-exchanged water and 3 g of sodium lauryl sulfate beforehand was continuously added dropwise into the reaction vessel over a period of 3 hours. After completion of the dropwise addition, the reaction was continued for further 3 hours. ~~The resulting aqueous emulsion was cooled to room temperature and then ion-exchanged water and an aqueous ammonia were added to prepare an emulsion having a solid matter of 40% by weight and a pH of 8.~~ The resulting polymer emulsion was cooled to room temperature and then ion-exchanged water and a 2 mol/L aqueous potassium hydroxide solution were added to prepare an emulsion having a solid matter of 35% by weight and a pH of 8. The concentration of polymer fine particles of the resulting polymer emulsion was adjusted to 0.1% by weight. Three parts by volume thereof and 1 part by volume of a 1 mol/L aqueous magnesium nitrate solution were brought into contact with each other in a cell of a spectrophotometer U-3300 (manufactured by Hitachi

Ltd.), whereby time required for decreasing the transmittance at a wavelength of 700 nm to 50% of the initial value was found to be 70 second.

Please replace the first full paragraph on page 173, which starts with "Moreover" with the following:

Moreover, the emulsion was subjected to measurement of volume-average particle size using a Laser Doppler-type particle size distribution-measuring machine, Microtrac UP150 manufactured by Leeds & Northrup, and the size was found to be 90 nm. The polymer emulsion was dried at room temperature and then subjected to measurement of glass transition point of the coated polymer using a thermal scanning calorimeter (differential scanning calorimeter: DSC) DSC200 (manufactured by Seiko Instruments Inc.), whereby the point was found to be 12°C. Moreover, the lowest film-forming temperature was 22°C. The concentration of polymer fine particles of the resulting polymer emulsion was adjusted to 10% by weight and a contact angle thereof with a polytetrafluoroethylene plate was measured to be 89 . Furthermore, a surface tension of the resulting polymer emulsion measured on a tensiometer CBVP-Z (manufactured by Kyowa Interface Science Co. Ltd.) was found to be 57x10-3 N/m (~~59 dyne/cm~~ 57 dyne/cm).